[ARIS11A] **ARIS Summary Report**

Regional Geologist, Prince George		**Date Approved:**	1999.07.28	**Off Confidential:**	2000.03.05
ASSESSMENT REPORT: 25914		**Mining Division(s):**	Cariboo		

Property Name: Ben

Location:

NAD 27	**Latitude:** 52 35 50	**Longitude:** 122 04 00	**UTM:** 10	5827658	563219
NAD 83	**Latitude:** 52 35 50	**Longitude:** 122 04 05	**UTM:** 10	5827874	563123
NTS:	093B09E				

Camp: 037 Gibraltar Area

Claim(s): Ben 1-6

Operator(s): Kahlert, Bernie H.
Author(s): Kahlert, Bernie H.

Report Year: 1999

No. of Pages: 20 Pages

Commodities Searched For: Gold, Silver

General Work Categories: GEOL

Work Done: Geological
PETR Petrographic (8 sample(s);)

Keywords: Argillites, Arsenopyrite, Cache Creek Complex, Cherts, Limestones, Pyrite, Quartz breccias

Statement Nos.: 3131889

MINFILE Nos.:

Related Reports: 17481, 18674, 21309, 25512

BEN PROPERTY

(Ben 1 - 6 Claims)

Assessment Report
on
Petrographic Study

Latitude 52 40' N Longitude 122 04' W

NTS 93 B / 9E

CARIBOO MINING DIVISION
British Columbia

B.H. Kahlert, P.Eng.

West Vancouver, BC
May 27, 1999

TITLE PAGE

APPENDICES

LIST OF FIGURES

I INTRODUCTION

The Ben 1 - 6, one unit claims, are owned by B.H. Kahlert of 1195 Sutton Place, West Vancouver. The claims cover a gold prospect identified by previous workers in the mid 1980's. This report covers a detailed petrograhic description of 8 rock specimen previously collected from the highly altered zone on the Ben property. The work was carried out in late February 1999 and cost $1644.47

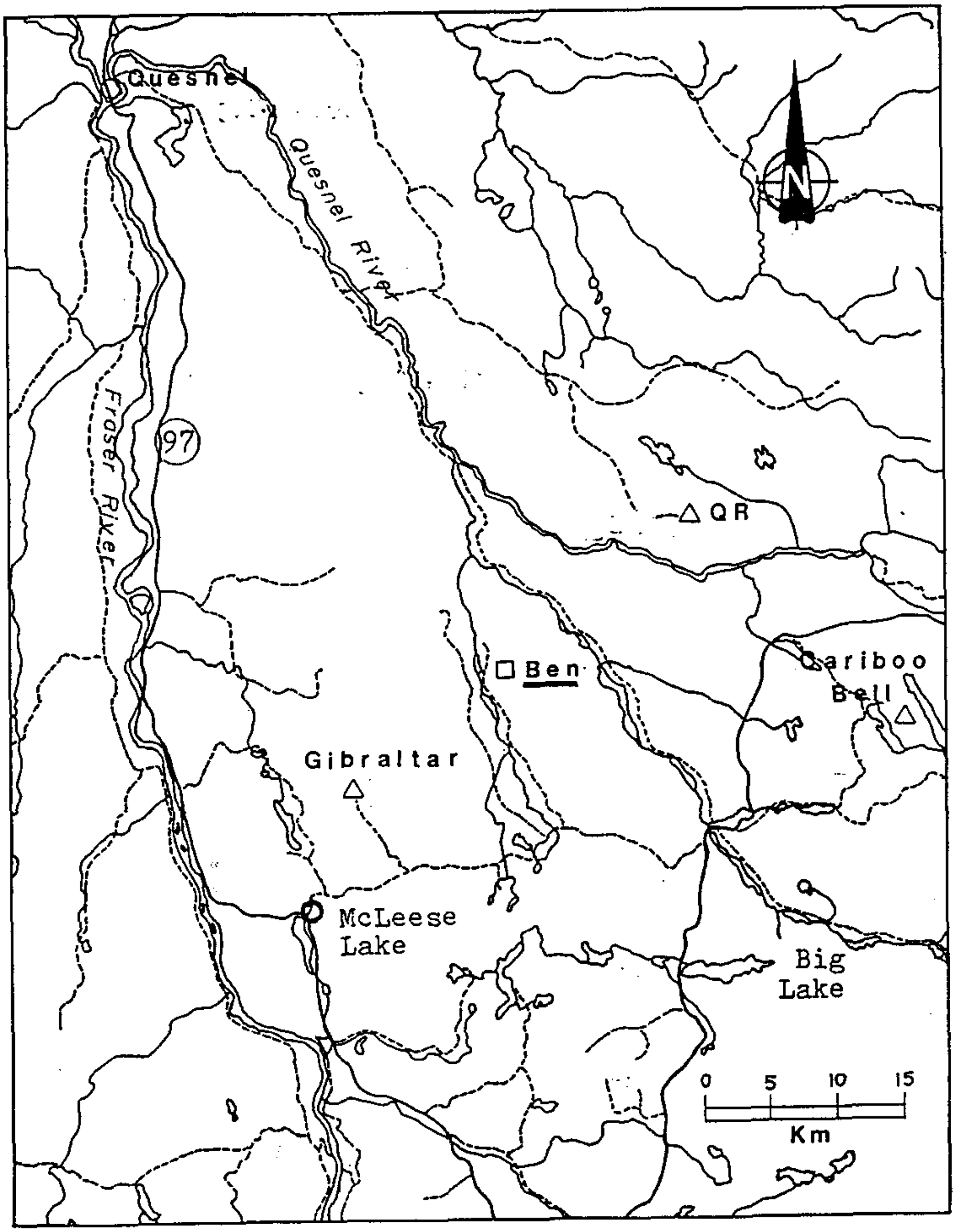
II LOCATION AND ACCESS

The Ben 1 - 6 claims are located 50 km north of Williams Lake, 10 km east of the Gibraltar porphyry copper mine. The claims are situated on NTS Map Sheet 93 B / 9E. Access is via the gravel road leading east from McLeese Lake on Highway 97 towards the town of Likely. At Km 22 from McLeese, a good gravel road north along the the Beedy Creek valley leads to the area of interest. A 4 km logging/ranch access track to the east leads to the western edge of the Ben claims. (See Location Map, over)

III PROPERTY DESCRIPTION

Claim Name	Record No.		Units
Ben 1	~~307911~~	307991 to	1
" 2	~~307912~~	307996	1
" 3	~~307913~~		1
" 4	~~307914~~		1
" 5	~~307915~~		1
" 6	~~307916~~		1

All Ben claims are owned by B.H. Kahlert and are in good standing until March 2000.



Location map of Ben property.
Scale: 1:500,000.

IV TERRAIN

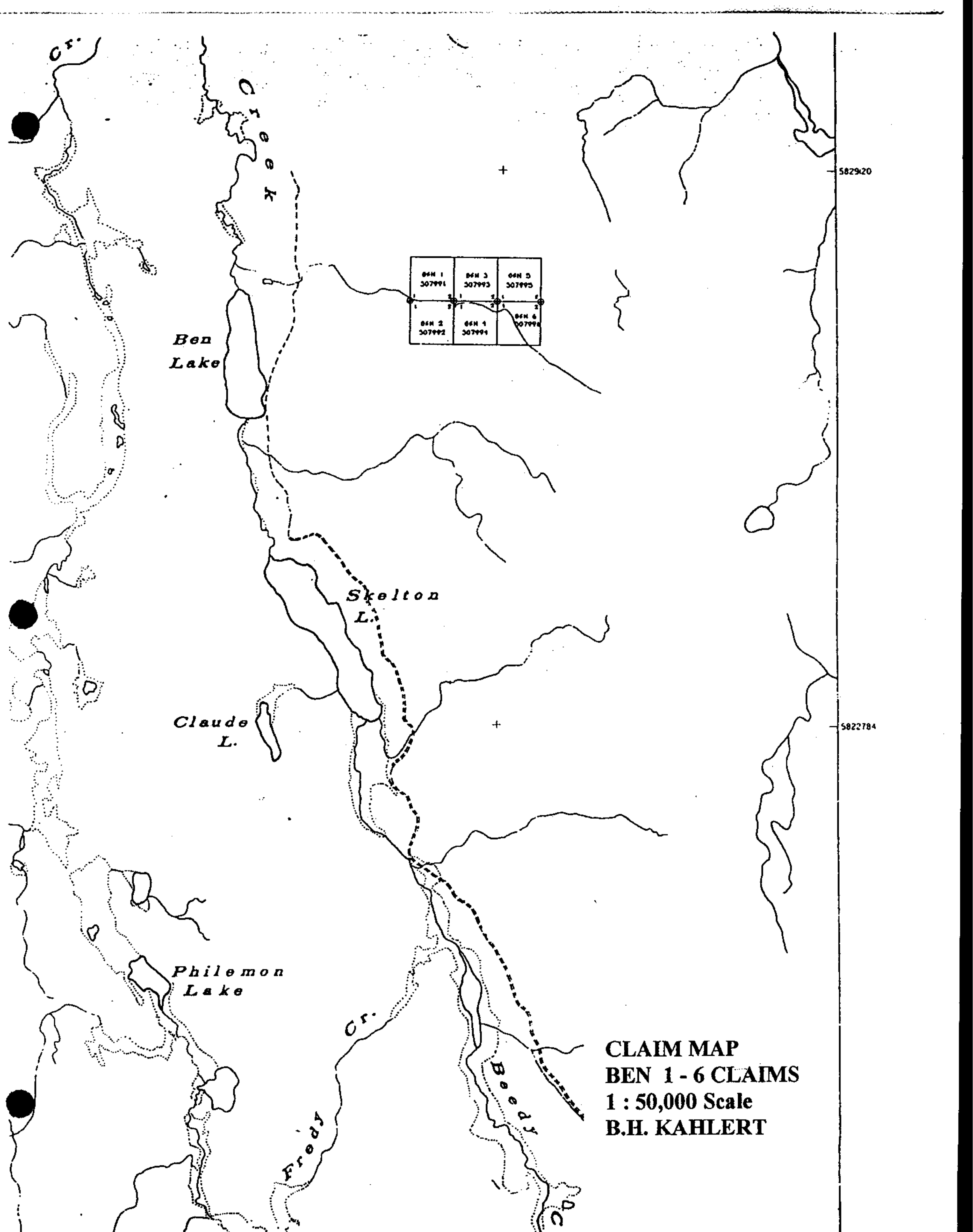
The claims are situated near the western edge of the Fraser Plateau overlooking the Beedy Creek valley. Relief on the claims is less than 100 metres. Glacial overburden is extensive but thin, generally only 1 - 10 metres. Several creeks cut shallow gullies up to 15 metres deep.

V GEOLOGICAL SETTING

The Ben Claims are underlain by Cache Creek Group limestones, argillite and chert. Mafic volcanic augite porphyry flows with a boninitic composition are exposed in the western portion of the claims. It is unsure whether these mafics belong to the Cache Creek Group or the Triassic Takla Group.

The most significant prospect on the property is the Main Zone located about 500 metres east of the western Ben claim boundary. The Ben main Zone is an eighty metre wide, highly silicified-carbonated zone exposed only in a shallow gully of North Ben Creek. In the center of the zone is a brecciated, silicified quartz vein or quartz breccia "ledge" surrounded by silicified and carbonatized country rock. Multiple phases of silicification have been identified and abundant open spaces indicates a high level emplacement. The silica ground mass also contains abundant fine grained pyrite with occasional grains of arseno-pyrite. Carbonate minerals, consisting of up to 25 percent magnesite with lesser dolomite, are intergrown with the fine grained silica.

Assaying of the numerous rock chip samples indicates anomalous gold values ranging from 20 to 220 ppb Au accompanied by highly anomalous arsenic, antimony and mercury, typical of trace elements associated with epigenetic gold deposits. Arsenic values up to 570 ppm As and antimony up to 250 ppm Sb are similar in range to rocks proximal to the rich Sleeper deposit in the Nevada and the Castle Mtn. deposits of Southeast California.



Cr.
Creek
5829120
BEN 1
307991
BEN 3
307993
BEN 5
307995
BEN 2
307992
BEN 4
307994
BEN 6
Ben
Lake
Skelton
L.
Claude
L.
5822784
Philemon
Lake
Cr.
Fredy
Beedy
CLAIM MAP
BEN 1 - 6 CLAIMS
1 : 50,000 Scale
B.H. KAHLERT

At the margins of the silicified zone, abundant chrome mica (mariposite) is noted while assaying indicates high background nickel values of up to 1,800 ppm Ni. This, associated with the high magnesium concentration indicates an association with a deep seated ultramafic suite of rocks. In this regard, the prospect has similarities to the recently discovered high grade Golden Bear deposit of Chevron, the Bralorne B.C. camp which produced 4 million ounces gold and the Motherlode camp of central California.

Structurally, the property appears to be cut by north-south trending splay of the extensive Pinchi Fault. Other brecciated, silicified exposures on the property are also anomalous in gold, arsenic and antimony, indicating an extensive zone. A flat, easterly dipping mylonitized zone forming the eastern boundary of the silicified zone may be an overthrust forming an impervious capping to the mineralized zone prior to erosion.

Other strong arsenic-antimony-gold anomalies on the Ben claims which have not yet been examined indicate further potential on this property.

VI RESULTS OF PREVIOUS WORK

Work on the property in the 1980's by Amoco Minerals and later Circle Resources outlined several silt gold anomalies associated with high trace elements - arsenic, antimony and mercury. Geological mapping located a wide silicified zone with abundant fuchsite carrying anomalous gold and trace elements. These metals are associated with a three stage quartz breccia and silicification event which includes chalcedony - clearly an epigenetic association. Circle Resources planned to drill this zone, however the drill contractor had no dozer, so set up 300 metres from the target and drilled 2 short, vertical holes. Even so, anomalous gold values were encountered in altered volcanics.

VII 1998 - 1999 WORK PROGRAM

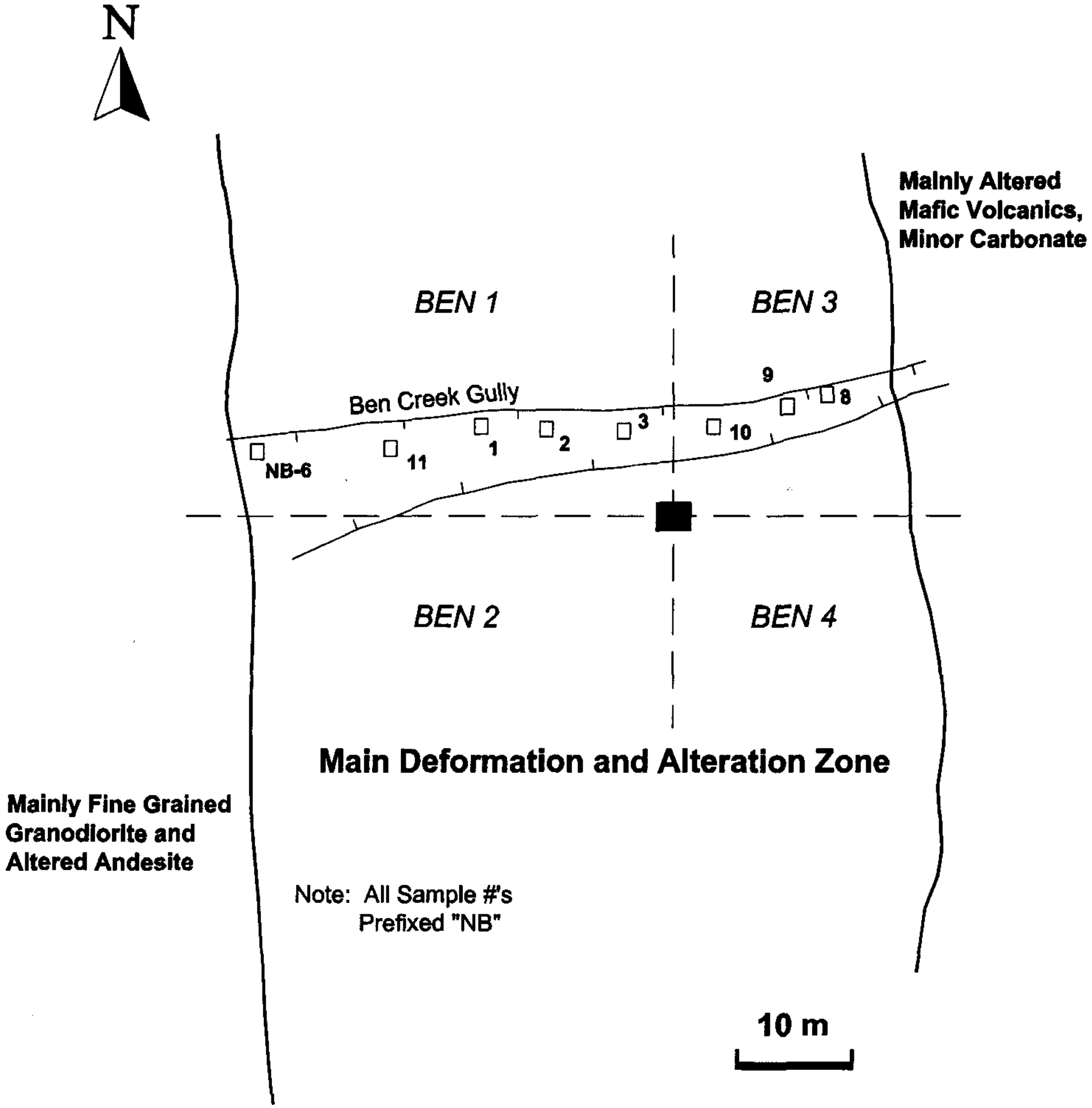
Work documented in this report consists of detailed petrographic examination of a number of selected rock specimen from the property. These specimen were previously collected by the writer on the property. They represent a variety of rock types seen in the Ben Main Zone which exhibit various stages of silicification, carbonatization and listwanite development.

Rock specimen were sawn, then sections prepared, photographed, then described in detail. Work was undertaken by ERSI, Earth Resource Surveys Inc., K.V. Campbell Ph.D, P. Geo., Principal.

Detailed Location of the specimen is shown on the Sample Location Map. (over)

VIII RESULTS OF PETROGRAPHIC STUDIES

The following 8 pages directly report results of the ERSI petrographic work with photographs.



BEN 1-3 CLAIMS
Caribou Mining Division
British Columbia
SAMPLE LOCATION MAP

Bernard H. Kahlert

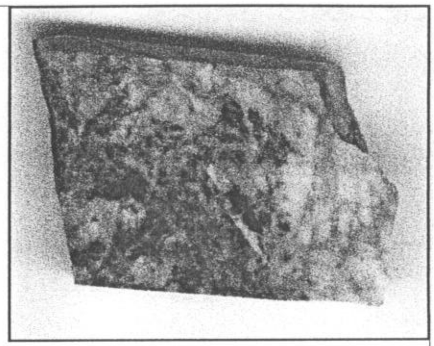
PETROGRAPHIC REPORT

Project: 99-328 **Date: March 1, 1999** **Property: Ben Claims, CMD** **Sample: NB-1**

Notes:

ROCK NAME: SILICIFIED, BRECCIATED CARBONATE

HAND SPECIMEN DESCRIPTION:



Dark gray to black siliceous dolomitic fragments pervaded by mottled white to grey vein quartz. Weathered surface is heavily coated with iron oxides and displays pronounced differential weathering with fine network of resistive quartz lace. There is a hint that the original host rock may have been more carbonate-rich than is evident now.

The quartz has at least three habits;

1) pale gray, diffuse crytpocrystalline quartz in matrix, incorporates small dark gray to black dolomitic fragments.

2) finely crytalline quartz stringers, <1/5 mm thickness, criss crossing the dark host rock.

3) irregular masses in excess of 1cm thick of white, fairly homogenous, coarsely crystalline vein quartz. Contacts are very diffuse and grade into host rock. The pattern of this quartz suggests that it may have been more continuous and vein-like prior to brecciation.

THIN SECTION DESCRIPTION:

The dark silicified dolomitic rock is composed of fine grained carbonate set in a matrix of cryptocrystaline quartz (variety 1 above).

The host rock is criss-crossed with two sets of stringers. The oldest and most abundant are of finely crystalline quartz. These are in turn cut by fine quartz-carbonate stringers showing no obvious preferred orientation. The patches of dark material are from 50 to 75% and higher replaced by these quartz and quartz-carbonate stringers.

The coarse grained quartz segregations clearly postdate both the fine quartz and quartz-carbonate stringers. Not apparent in the hand specimen but clearly evident in the thin section is a significant amount of medium grained, neutral to clouded phyllosilicate (muscovite ?) and fine grained aggregates or concentrations of carbonate (dolomite ?).

The rock is intensely brecciated on both macro- and microscopic scales. The coarse crystalline quartz shows undulatory extinction indicative of stress without subsequent annealing.

Mode of breccia: quartz - 80%, carbonate - 15%, opaques - 5%

COMMENTS:

The original carbonate host rock could represent a member of the Cache Creek Group or possibly even a Lower Paleozoic unit. The rock could also be a serpentinite that has been carbonatized and subsequently silicified although given the lack of chromium micas this is less likely.

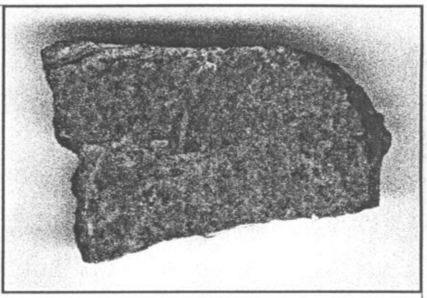
PETROGRAPHIC REPORT

Project: 99-328 **Date: March 1, 1999** **Property: Ben Claims, CMD** **Sample: NB-2**

Notes:

ROCK NAME: SILICIFIED CARBONATE

HAND SPECIMEN DESCRIPTION:



Rusty weathering, light gray, fine to medium grained crystalline ferruginous carbonate (sideritic dolomite ?) with green stains. Includes 5% opaques (magnetite) and about 5% disseminated pyrite grains <1/2mm in diameter.

There are clouded gray quartz stringers 1-2mm thick cutting the host.

The green spots and patches are considered to be chromium-rich micas.

THIN SECTION DESCRIPTION:

The matrix of this rock is coarsely crystalline, inequigranular, anhedral and ragged, brownish carbonate that is partly and locally replaced by cryptocrystalline silica. The rock is made up of 75-90% carbonate. There are some textural variations (grain size and amount of veining) that suggest the rock is composed of fragments tectonized and silicified to varying degrees.

The rock has been brecciated and tectonized with crush zones up to several mm thick crossing the rock.

There are quartz and carbonate stringers and open space fillings of silica and sulphides. The thin quartz stringers display a fine laminar structure parallel to their walls. They are clearly relatively younger than the host carbonate although they have been broken and offset at the microscopic scale by cross fractures. The carbonate stringers are spatially related to the tectonized zones crossing the breccia.

There is a cryptocrystalline variety of quartz lining the insides of microscopic openings and possibly represents a generation of chalcedonic quartz. It is distributed along an intersecting network of fractures. It is not clear which is younger, the chalcedonic quartz or the fine network of thin quartz stringers.

Mode: carbonate - 90%, quartz - 6%, opaques - 4%

COMMENTS:

The rock could have originally been a serpentinite that has been carbonatized and subsequently silicified.

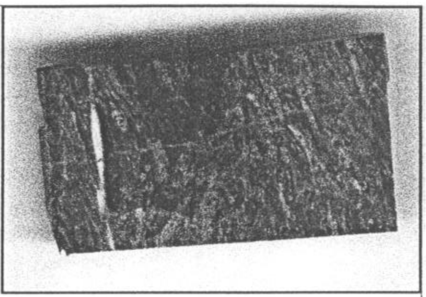
PETROGRAPHIC REPORT

Project: 99-328 **Date: March 1, 1999** **Property: Ben Claims, CMD** **Sample: NB-3**

Notes:

ROCK NAME: CATACLASIZED, SILICIFIED CARBONATE

HAND SPECIMEN DESCRIPTION:



Dark gray, finely laminated siliceous, dolomitic carbonate streaked with whitish quartz laminations and wisps. There are numerous chromium-green colored knots, segregations and shredded laminations.

The rock has been highly tectonized. In the figure on the right a white carbonate (?) lamination or stringer parallel to the penetrative fabric can be seen. There is also a thinner stringer (<1/2mm in thickness) crossing the white stringer at right angles, clearly younger than the cataclasitc episode.

THIN SECTION DESCRIPTION:

This rock is fine to medium grained brownish carbonate set in a matrix of very fine almost cryptocrystalline quartz and fine grained mica. The brownish, almost opaque, carbonate makes up 60-75% of the rock. The grains are lenticular, stretch in the foliation. The groundmass is cryptocrystalline silica.

There is a finely laminated fabric, largely recrystallized through metamorphism from whatever the original fabric was. The original rock was possibly microfolded. There is a well developed cleavage subparallel to the composition laminations and along which there has been some metamorphic differentiation of the carbonate.

There are two generations of carbonate veining;

1) thin stringers of sideritic dolomite (?) lying parallel to the penetrative fabric

2) very thin hairline stringers of carbonate crossing the deformational fabric at a high angle, clearly post cataclasis.

The original metamorphic rock has been tectonized as evidenced by the attenuation and disruption of the laminations. This tectonism was largely subparallel to the original fabric. The rock is a cataclasite and developed in a zone of extreme shearing.

Mode: carbonate - 65%, quartz - 25%, green chromium micas -5%, opaques - 5%

COMMENTS:

Of all the samples in the suite examined this has a relict fabric most indicative of an earlier metamorphic event. The rock could have been a serpentinite that has been carbonatized and subsequently silicified.

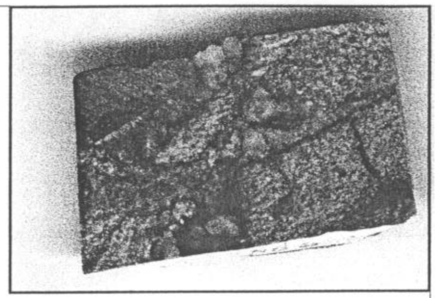
PETROGRAPHIC REPORT

Project: 99-328 **Date: March 1, 1999** **Property: Ben Claims, CMD** **Sample: NB-6**

Notes:

ROCK NAME: QUARTZ VEINED GRANODIORITE BRECCIA

HAND SPECIMEN DESCRIPTION:



Fine to coarsely crystalline quartz enclosing light gray, fine grained, micaceous, tabular fragments of granodiorite. The granodiorite fragments are up to 1 and 2cm thick and several cm long and exhibit an internal foliation. They have been altered by silicification (?) and sericitization.

The vein quartz is white to clear, vitreous and forms crystals to 1 and 2cm in length lining and projecting into open space fillings.

The rock is weathered and has a strong hematitic red dusting.

THIN SECTION DESCRIPTION:

This rock sample contains the only intrusive rock recognized in the suite of samples. The granodioritic rock is composed of finely crystalline quartz and saussuritized feldspar(s?). It has a moderately developed foliation defined by streaks of opaques and lamellae of phyllosilicates which includes abundant pale clinochlore. The groundmass is of cryptocrystalline silica and indicates the rock has been silicified. The alteration, which is so developed it should really be termed a replacement, is not even throughout the thin section. There are patches almost entirely of fine sericite and others where clinochlore predominates.

In the field this rock has been mapped as a volcanic. The thin section shows there are a few sub-angular to angular, clear quartz grains in the matrix. These do not appear to have been quartz phenocrysts. There are a number of larger grains with a clouded center and clearer, less inclusion-rich rims, that are thought to have been feldspar. This, by itself is neither indicative of an intrusive or extrusive origin. Given the internal foliation and micaceous nature the rock is considered to have been a granodiorite.

The quartz is different from that in samples NB-1, 2 and 3 in that it is clear and coarsely crystalline. The granodiorite fragments have been rotated in that their internal foliation (representing an earlier igneous or metamorphic stage) is not aligned with that of adjacent fragments.

Mode of angular fragments: quartz - 30%, white mica - 25%, opaques - 5%, chlorite - 5%, feldspar - 35%

COMMENTS:

This sample indicates there must be a granodioritic pluton underlying the local area. The episode of quartz veining clearly postdates consolidation of the granodiorite.

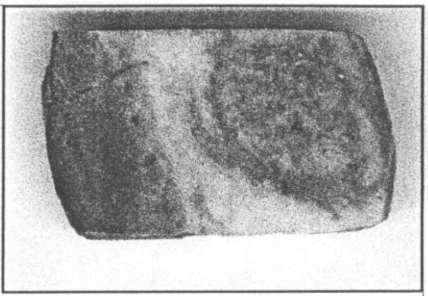
PETROGRAPHIC REPORT

Project: 99-328 **Date: March 1, 1999** **Property: Ben Claims, CMD** **Sample: NB-8**

Notes:

ROCK NAME: QUARTZITE

HAND SPECIMEN DESCRIPTION:



The rock is a true metamorphic quartzite composed of clear, finely grained, crystalline quartz with a vitreous lustre and red hematitic straining. The rock weathers grey and has a dusting of hematite. The quartzite has a poorly developed parting and what may be an original bedding defined by minor color variations.

The sample includes a white quartz vein at least 3cm thick of white cryptocrystalline material. This vein quartz has further silicified the quartzite, obliterating grain boundaries and any evidence of original stratification.

THIN SECTION DESCRIPTION:

The quartzite is of subequigranular, subangular to angular, anhedral, fine grained quartz lacking signs of stress or tectonism. There is no internal fabric and few impurities. The quartzite is about 95% quartz with the remainder made up of fine sericite rimming the quartz grains. Minor amounts of reddish brown biotite also occur.

The white quartz vein is finer grained than the quartzite. It includes about 3-5% of finely divided phyllosilicate and has a poorly developed lamination parallel to its gradational contact with the quartzite.

Mode: quartz - 94%, phyllosilicates - 5%, opaques -1%

COMMENT:

The purity and habit of the quartzite suggests that it may be one of the Cambrian or older units, representing a slice of the basement rocks. Such occurrences are found to the northeast along strands of the Fraser Fault system.

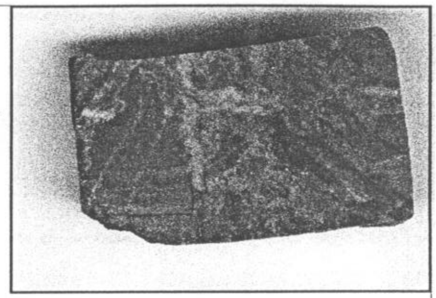
PETROGRAPHIC REPORT

Project: 99-328 **Date: March 1, 1999** **Property: Ben Claims, CMD** **Sample: NB-9**

Notes:

ROCK NAME: **BRECCIATED , MICACEOUS QUARTZITE**

HAND SPECIMEN DESCRIPTION:



Brownish gray weathering, pale flesh to brownish gray, inequigranular fine grained quartz. The weathered surface exhibits differential or solutional weathering. The rock is brecciated with white to clear quartz stringers 3-5mm thick cutting the breccia. The rock is hard and siliceous.

There are a few vugs in the quartz stringers and these have euhedral pyrite cubes <1mm diameter.

There is an accessory white mica throughout the quartzite.

THIN SECTION DESCRIPTION:

The host rock is a laminated fine grained micaceous quartzite, which still retains is clastic nature. The foliation is defined by streaks of opaques and concentrations of white mica. The phyllosilicate occurs in two habits; anhedral ragged intergranular and subhedral laths shows little preferred orientation.

There are at least two generations of quartz veining;

1) thin, fine grained quartz stringers with grains slightly larger than the clastic grains in the groundmass and which are subparallel to the compositional layering.

2) thicker, coarse grained stringers and veinlets which cut the thin stringers.

Mode: quartz - 70%, phyllosilicate - 25%, opaques - 5%

COMMENTS:

The rock probably represents a sericitized quartzite, possibly a variant of the Lower Cambrian quartzite represented by NB-8.

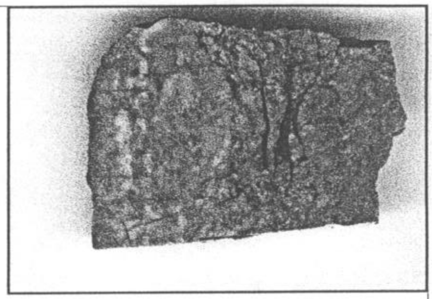
PETROGRAPHIC REPORT

Project: 99-328 **Date: March 1, 1999** **Property: Ben Claims, CMD** **Sample: NB-10**

Notes:

ROCK NAME: SILICIFIED DOLOMITE

HAND SPECIMEN DESCRIPTION:



Rusty weathering silicified dolomite , pale gray streaked with white.

There are at least two varieties of later quartz;

1) white quartz stringers only a few mm thick but slightly thicker (3 to 4mm) than variety 2 below. Their contacts are not well defined and they probably developed from silica solutions moving along relatively young fractures.

2) thin, gray colored very finely crystalline quartz stringers only a few mm in thickness with internal cavities and banded structure. Some have fillings of very fine pyrite (?). These cross cut the more diffuse thicker quartz stringers.

THIN SECTION DESCRIPTION:

The host rock is a silicified ferruginous dolomite. The carbonate is medium to coarse grained, the finer grained material is set in a matrix of cryptocrystalline silica. The host rock is fairly altered and includes at least 10% of opaques, in large part considered to be iron oxides.

The thin stringers with the open spaces show a well developed cockscomb structure with a very fine almost radiating habit. These youngest quartz filled structures have been offset by a network of fractures, some of which are filled with opaques and what in one case may be reddish brown biotite and pale amphibole.

Mode: carbonate - 80%, quartz -15%, opaques -5%, trace biotite, amphibole

COMMENT:

The rock probably represents one of the carbonate units in the Cache Creek Group.

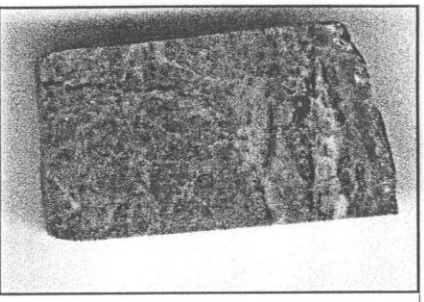
PETROGRAPHIC REPORT

Project: 99-328 **Date: March 1, 1999** **Property: Ben Claims, CMD** **Sample: NB-11**

Notes:

ROCK NAME: **SILICIFIED CARBONATE**

HAND SPECIMEN DESCRIPTION:



Pinkish gray weathering, dark to light gray, medium grained silicified, ferruginous dolomite with chromium-green colored spots and segregations.

Opaques include a few % of disseminated pyrite.

The rock is highly brecciated and criss-crossed with pale siliceous stringers.

THIN SECTION DESCRIPTION:

The rock is very similar to NB-2, composed of fine to coarse grained, neutral colored and clouded, anhedral and ragged, crystalline carbonate in large part replaced by cryptocrystalline silica. Carbonate makes up in excess of 90% of the coarser grained fraction of the rock. The rock exhibits a crude layering defined by varying grain size, fractures and quartz stringers. It is highly brecciated with thin crush zones made up of finer grained carbonate. In some places the carbonate is finely banded, suggesting the original rock had a laminar structure.

The rock is cut by carbonate stringers, fine quartz-carbonate stringers and fine cryptocrystalline quartz stringers. The carbonate stringers are considered the oldest and the chalcedonic quartz stringers the youngest. These exhibit open space fillings and a fine radiating structure out from their walls. They have been offset by fractures. The pale green micaceous mineral (chromium mica?) is spatially related to the younger open space fillings, forming selvages on the chalcedonic quartz stringers.

Mode: carbonate - 70%, quartz - 15-20%, opaques -3%, chromium mica 5%

COMMENTS:

Similar to sample NB-2, this rock could have originally been a serpentinite that has been carbonatized and subsequently silicified.

IX CONCLUSIONS

The petrographic studies clearly show that the deformation zone has undergone intensive alteration and tectonization. Silicification of 2-3 stages with quartz veining carbonatization and listwanite development (carbonate - chrome mica) are noted in most of the 80 metre wide deformation zone.

This documentative information, when combined with previously analyzed samples returning anomalous values of gold, arsenic, antimony and mercury, point to the sample area being the top of an epigenetic gold system.

The strong tectonization and wide deformation zone indicate this could be the surface manifestation of a large mineralized zone.

IX. RECOMMENDATIONS

Detailed geological mapping, whole rock sampling should be undertaken to define the extent of the zone. This should be followed by deep sounding resistivity survey to search for a silicified zone which should then be tested by diamond drilling.

BHKahlert

B.H. Kahlert, P.Eng.

APPENDIX I

Statement of Expenditures
Ben Claims 1 - 6
307911 - 307916

ERSI Petrographic Report	$ 1264.47
Report Preparation	300.00
Typing, Drafting	100.00
TOTAL	$ 1644.47

APPENDIX II

Statement of Qualifications,
B.H. Kahlert, P. Eng.

1966	Graduated UBC, B.Sc, Geology
1971	Attained P.Eng Status, British Columbia
1966 - 1985	20 years Experience as Field Geologist and Exploration manager in Canada, USA and Australia.
1985 - Present	Consulting Geologist to various junior and senior Exploration Companies in Canada, USA, China, Greenland and Latin America.

Practice of Exploration Geology has been continuous for over 30 Years.